REMARKS

Upon entry of the present amendment claims 1-15, 17-23, and 27-28 will be pending in the application. Claims 1 and 17 have been amended, and add no new matter. No claims have been canceled. Claim 28 has been added, and support for this new claim can be found at least in claim 1 as originally filed. No new matter has been introduced by this new claim. Reconsideration is respectfully requested in view of the foregoing amendments and/or following remarks.

1. Rejection under 35 U.S.C. §112.

Applicants respectfully submit that the amendments to claims 1 and 17 render the rejection under 35 U.S.C. §112 moot. Withdrawal of this rejection is respectfully requested.

2. Rejection of claims 1-22 under 35 U.S.C. §103(a) as being unpatentable over DE10042152 as translated by U.S. Patent No. 7,019,042 to Röckrath et al., hereafter "Rockrath", in view of U.S. Patent No. 5,064,871 to Sciangola, hereafter "Sciangola".

Independent claim 1 is directed to a liquid rheological aid comprising (A) at least one urea derivative prepared by reacting (a1) at least one compound having at least one isocyanate group with (a2) at least one co-reactant selected from the group consisting of primary monoamines and polyamines, secondary monoamines and polyamines and water, in the presence of (a3) at least one organobismuth catalyst; and B) at least one additive, wherein the rheological aid comprises a bismuth compound; and wherein the rheological aid comprises the urea derivative (A) in an amount, based on the rheological aid, of more than 10% by weight.

Rockrath is directed to a novel thixotropic agent comprising urea crystals which comprises at least one compound containing at least one functional group having at least one bond which can be activated with actinic radiation. (Rockrath, abstract). The thixotropic agent comprises the urea crystals in an amount, based on the thixotropic agent, of from 0.1 to 10, more preferably from 0.2 to 9, with particular preference from

0.3 to 8, with very particular preference from 0.4 to 7, and in particular from 0.5 to 6% by weight. (Rockrath, column 4, lines 47-53).

Sciangola teaches a composition comprising an isocyanate-reactive compound and a catalyst comprising a bismuth carboxylate and a zirconium carboxylate. (Sciangola, abstract). In particular, Sciangola teaches the use of a combination of zirconium carboxylate in conjunction with a bismuth carboxylate as a catalyst for the cure of a composition comprising a polyisocyanate and an isocyanate-reactive compound, which catalyst provides curing rates, a pot life, and a post-cured composition hardness which is desirable for many applications. (Sciangola, column 1, lines 57-63).

In rejecting claims 1 and 27, the Examiner has asserted that it would have been obvious to use the catalyst of Sciangola in the reactions of Rockrath to obtain the rheological aid of the pending claims. (10/19/2007 Office Action, page 6, first paragraph). Applicants respectfully disagree on the basis that the subject matter herein is the use of catalysts. It is well-recognized that the art of catalysis is highly unpredictable, and that even small changes in composition can have unexpected effects. "The unpredictability of catalytic phenomena has been recognized... [A] successfully catalyzed process depends not only on the particular catalyst that may be employed but also on the environment within which the catalysis is accomplished..." *In re Mercier*, 515 F.2d 1161, 185 U.S.P.Q. 774, 779-80 (C.C.P.A. 1975).

Applicants present bismuth catalyst and Sciangola's catalyst are substantially different. Sciangola teaches a catalyst based on the combination of a bismuth carboxylate and a zirconium carboxylate. There is no teaching in Sciangola that a bismuth carboxylate **alone** is a suitable catalyst. Therefore, Applicants respectfully assert that Sciangola cannot be relied upon to teach catalysis with a bismuth compound alone when Sciangola is directed to the catalytic activity of a catalyst comprising both a bismuth carboxylate and a zirconium carboxylate in combination.

In addition, Applicants respectfully submit that Sciangola discloses a catalyst that not only is a mixture of two compounds, a zirconium and a bismuth compound, but is also different in purpose and effect. Sciangola's catalyst results in the three dimensional crosslinking cure of a film forming composition. Rockrath is directed to a

thixotropic agent. If the catalyst of Sciangola were used in the compositions of Rockrath the intent of Rockrath would be destroyed as it difficult to imagine how a fully cured composition could be used as a thixotropic agent. There is absolutely nothing in Sciangola that it indicates that the disclosed film-forming combination catalyst could be used to advantage in the production of a rheological additive that is not cured during production.

The courts have ruled on similar fact patterns and provided holdings that are determinative to the instant claims. For example, the courts have held that "[i]f the proposed modification would render the prior art invention being modified unsatisfactorily for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon* 733 F. 2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The courts have also held that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." *In re Ratti* 270 F. 2d 810, 123 USPQ 349 (CCPA 1959).

Accordingly, it is submitted that the combination of Sciangola and Rockrath fails to provide a prima facie case of obviousness. At a minimum, withdrawal of Sciangola as a secondary reference is respectfully requested.

The Examiner has stated that "the instantly claimed compositions do not require the bismuth catalysts to remain therein." (10/19/2007 Office Action, page 5, final paragraph). Applicants respectfully assert that this statement is incorrect in view of Applicants' required recitation "wherein the rheological aid comprises a bismuth compound", as found in independent claims 1 and 27.

Finally, independent claim 1 recites "the urea derivative (A) in an amount, based on the rheological aid, of more than 10% by weight".

Notwithstanding the foregoing arguments, it is noted that at least this limitation is not obvious over the prior art. Rockrath teaches that the thixotropic agent comprises the urea crystals in an amount, based on the thixotropic agent, of from 0.1 to 10, more preferably from 0.2 to 9, with particular preference from 0.3 to 8, with very particular preference from 0.4 to 7, and in particular from 0.5 to 6% by weight. (Rockrath, column 4, lines 47-53, examples, claim 11). In contrast, the liquid rheological aid of Applicants'

independent claim 1 is not obvious over Rockrath because it can be present in an amount of greater than 10% by weight, which is surprising and non-obvious over the prior art where having more than 10% by weight of urea crystals in a rheological aid produces a storage unstable composition.

The Examiner has commented on Applicants' 10% by weight encompassing the bismuth compound. Claim 1 has been amended to clarify the wording in such a way that the 10% by weight refers to the urea derivative as was intended.

Regarding new claim 28, it is also non-obvious over Rockrath. The Examiner has thus far treated the present claims as product by process claims, alleging that they are directed to the compositions per se and that such appear to substantially encompass the compositions of Rockrath. (10/19/2007 Office Action, page 5, final paragraph).

Applicants respectfully assert that the present urea derivatives are substantially different from and patentable over the prior art, because Applicants have respectfully shown that the present urea derivatives can produce stable rheological aids even if they were added in an amount greater than 10% by weight. Applicants respectfully refer the Examiner to Example 1 on page 16, wherein the rheological aid, comprising 14.32% by weight of the urea derivative, was stable on storage and of outstanding processability. This Example alone is sufficient to prove that the present urea derivatives are different from those of the prior art, since, because they are prepared according to Applicants' claims, they can be used in a rheological aid in amount greater than 10% by weight. On the other hand, the rheological aids disclosed in the prior art, which comprise urea derivatives not prepared according to Applicants' claims, are unstable at an amount of the urea derivative of greater than 10% by weight.

Therefore, the limitation "at least one urea derivative prepared by reacting (a1) at least one compound having at least one isocyanate group with (a2) at least one co-reactant selected from the group consisting of primary monoamines and polyamines, secondary monoamines and polyamines and water, in the presence of (a3) at least one organobismuth catalyst", even though it is a product-by-process limitation, should be given patentable weight and is not obvious over the prior art, because the urea

derivative produced by this process exhibits substantially different properties from the urea derivatives of the prior art.

The foregoing is also affirmed by the courts, which have held that "[t]he structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product". See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979). Therefore, new claim 28 is patentable over the prior art because the product by process limitation should be given considerable patentable weight, at least because it is essential in defining the urea derivative, and it imparts distinctive characteristics to the urea derivatives, allowing them to be stable in rheology aid compositions at amounts greater than 10%, as is amply shown in Applicants' specification as filed. This also the case for claims 1 and 27, which recite the same limitation.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Applicants respectfully assert that a prima facie case of obviousness has not been established by the Examiner in view of the foregoing. Specifically, and regarding claims 1, 27, and 28, the product-by-process limitation should be given ample patentable weight at least because it is essential in defining the urea derivative, and it imparts distinctive characteristics to the urea derivatives, allowing them to be stable in rheology aid compositions at amounts greater than 10%, as is amply shown in Applicants' specification as filed.

Regarding claims 1 and 27, Sciangola teaches a catalyst based on the combination of a bismuth carboxylate along with a zirconium carboxylate. Sciangola's catalyst is useful for curing a composition comprising a polyisocyanate and an isocyanate-reactive compound, which catalyst provides curing rates, a pot life, and a post-cured composition hardness which is desirable for many applications. There is no

teaching or suggestion in Sciangola that a bismuth carboxylate alone is a suitable catalyst for the production of a rheological aid. In fact, Sciangola teaches away from using Sciangola's catalyst in the production of rheological aids because one with ordinary skill in the art would not want to cure or otherwise harden a composition which is intended to serve the purpose of a rheological aid. Certainly nothing in Sciangola would suggest that the use of a part of the combination could be used to make a more storage stable rheological aid. Therefore, Sciangola cannot be relied upon to teach catalysis of bismuth when Sciangola is directed to the catalytic curing of a composition, while using a catalyst comprising both a bismuth carboxylate and a zirconium carboxylate in combination, and as a result Applicants' bismuth limitation is non-obvious.

Regarding claim 1, the liquid rheological aid is not obvious over Rockrath because it can be present in an amount of greater than 10% by weight, which is surprising and non-obvious over the prior art where having more than 10% by weight of urea crystals in a rheological aid produces an unstable composition.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

3. Rejection of claims 1-15, 17-23, and 27 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 7,019,042 to Rockrath et al., hereafter "Rockrath", in view of U.S. Patent No. 5,064,871 to Sciangola, hereafter "Sciangola".

Applicants respectfully traverse the nonstatutory obviousness-type double patenting rejection in view of the above arguments. Applicants respectfully assert that the present claims do not conflict with the claims of Rockrath, in view of Sciangola. The above arguments are incorporated herein by reference in their entirety.

In summary, the present claims do not conflict with the claims of Rockrath in view of Sciangola, because, regarding claims 1, 27, and 28, the product-by-process limitation should be given ample patentable weight at least because it is essential in defining the urea derivative, and it imparts distinctive characteristics to the urea derivatives, allowing them to be stable in rheology aid compositions at amounts greater than 10%, as is amply shown in Applicants' specification as filed.

Regarding claims 1 and 27, Sciangola teaches a catalyst based on the combination of a bismuth carboxylate and a zirconium carboxylate. Sciangola's catalyst is useful for curing a composition comprising a polyisocyanate and an isocyanate-reactive compound, which catalyst provides curing rates, a pot life, and a post-cured composition hardness which is desirable for many applications. There is no teaching or suggestion in Sciangola that a bismuth carboxylate alone is a suitable catalyst for the production of a rheological aid. In fact, Sciangola teaches away from using Sciangola's catalyst in the production of rheological aids because one with ordinary skill in the art would not want to cure or otherwise harden a composition which is intended to serve the purpose of a rheological aid. Therefore, Sciangola cannot be relied upon to teach catalysis of bismuth when Sciangola is directed to the catalytic curing of a composition, while using a catalyst comprising both a bismuth carboxylate and a zirconium carboxylate in combination, and as a result Applicants' bismuth limitation is non-obvious.

Regarding claim 1, the liquid rheological aid is not obvious over Rockrath because it can be present in an amount of greater than 10% by weight, which is surprising and non-obvious over the prior art where having more than 10% by weight of urea crystals in a rheological aid produces an unstable composition.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

CONCLUSION

Applicants respectfully submit that the Application and pending claims are patentable in view of the foregoing remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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Wednesday, December 19, 2007

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